A-Level Computer Science
H446 - Knowledge Organiser Section 9 – Computer law, moral, ethical and social issues

Legal, ethical, cultural and environmental vocab

Term	Definition
Legislation	Laws that are to be followed – can be criminal or civil, national and international.
Moral	Refers to an individual's principles of right and wrong.
Ethics	A set of moral principles that govern the behaviour of a group or society.
Cultural	The integrated system of learned behaviour patterns within a group of a society.
Computer misuse	The unauthorised access, use or damage to a computer system.
Copyright	The legal right given to the creator of original content for a fixed number of years to prevent others from copying the material.
Patent	A government licence giving sole rights to a creator for exclusive use, creation or sale of an invention.
Investigatory Powers	The governmental power to inspect and compel disclosure of facts relevant to an investigation.
Surveillance	To closely observe an individual or group, usually those suspected of committing crimes.
Interception	Action taken to prevent someone or something from continuing something.
Carbon footprint	The amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, organization, or community.
Pollution	The presence in or introduction into the environment of a substance which has harmful or poisonous effects.
Computer-aided manufacturing	The use of software to control machine tools and related ones in the manufacturing of work pieces.
Sensors	A sensor is a device that detects and responds to some type of input from the physical environment. The specific input could be light, heat, motion, moisture, pressure, or any one of a great number of other environmental phenomena.
Recycling	The conversion of waste material into material that can be reused.
Censorship	The suppression or prohibition of materials which are considered to be inappropriate, unacceptable or a threat to security.
Paradigm	A model for something which explains it or shows how it can be produced.

Laws affecting Computer Science

Law	Year	Description
General Data Protection Regulation (GDPR)	2018	Controls the way data about living people is stored and processed. Follows 8 principles: 1. Be fair and lawful 2. Relevant and not excessive 3. Accurate and up to date 4. Only kept as long as needed 5. Only be used for the stated purpose 6. Be kept securely 7. Handled in line with peoples' rights 8. Not be transferred to countries without protection laws
Computer Misuse Act	1990	Makes it an offence to access or modify computer material without permission. • Unauthorised access to computer material • Unauthorised access with intent to commit or facilitate a crime • Unauthorised modification of computer material • Making, supplying or obtaining anything which can be used in computer misuse offences
Copyright, Designs and Patents Act	1988	Covers the copying or use of other peoples' work. Applies to all forms of work, including: • Films • Music • Literary works • Source code
Regulation of Investigatory Powers Act	2000	Regulates surveillance and investigation, and covers the interception of communications. • Requires ISPs to assist in surveillance, secretly • Enables mass surveillance of communications in transit and monitoring of Internet activities • Enables certain public bodies to demand that someone hand over keys to protected information • Prevents the existence of interception warrants and any data collected with them from being revealed in court

Areas for discussion 2

Computers in the workforce	Computers have transformed the workplace and society as a whole. People and organizations have become dependent on computers to connect them to co-workers, vendors, customers and information. Although computers have provided workers countless tools for business and easier access to information nearby or abroad, there are negative effects.
Automated decision making	A decision-making process that is totally automated and excludes any human influence on the outcome. A process might still be considered solely automated if a human inputs the data to be processed, and then the decision-making is carried out by an automated system.
Environmental effects	Technology has had an impact on the environment that is both positive and negative. The use of computers affects the environment in different ways, such as energy consumption, technological waste, and the impact of remote working.
Censorship and the Internet	Internet censorship is the control or suppression of what can be accessed, published, or viewed on the Internet enacted by regulators, or on their own initiative. Individuals and organizations may engage in self-censorship for moral, religious, or business reasons, to conform to societal norms, due to intimidation, or out of fear of legal or other consequences.
Monitoring behaviour	Businesses monitor employees to improve productivity and protect corporate resources. The main intention is to prevent unacceptable behaviour in the first place and, should that effort fail, to curtail the behaviour before it can have a negative effect on the business.
Analysing personal information	Information about you is being gathered all the time. Each time you set up an account online, your details are being harvested by someone. Every account you have could potentially be harvested, analysed and sold on to advertisers. Data mining is regularly used for this purpose.
Offensive communications	The Internet and phone communications have provided opportunities for those people who want to harass others in some way. This can include sending malicious emails or texts, following them around on the Internet via their social websites and posting hurtful messages (called 'cyber-stalking'), posting hurtful messages to people they know, pretending to be someone they are not and posting hurtful messages and posting intimate pictures of someone, perhaps from when they were in a relationship.
Layout, colour paradigms and character sets	Not all cultures use the Roman alphabet or read and write from left to right, for example. The use of colour in the design of websites, documents, programs and other types of media has a varying significance, depending upon the designer's background and origins.

Areas for discussion

Driverless cars	A vehicle that is capable of sensing its environment and navigating without human input.
Manufacturing	Computer technology is used to produce items faster, more accurately and cheaper than can be done by hand.
Shopping	Online shopping has led to the closing of many high street stores. It has also helped people who find it difficult to get to a supermarket for their food shopping.
Communication	Advancements in technology now make it much easier to communicate all over the world using social media, email, texting and phone calls. Information is spreads at a much faster rate.
Employment	The advancement of computer technology has made many new jobs, but has also put many people out of work in a number of industries (for example, manufacturing). Some jobs are now automated or controlled by robots.
Developments in software	Computer software is becoming substantially more developed as time goes on – this is especially visible within the field of artificial intelligence.
Artificial Intelligence	The theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.
Healthcare	Technology is used to monitor patients, administer drugs and diagnose illnesses. Health apps are used more regularly on smartphones than ever before.
Social networking	Many people of all ages use social networking sites to keep in touch with others. It is much easier to communicate in this way than it would be to send a card, for example.
Rating culture	Services use star or score-based rating systems to judge people's performance. For example, the taxi company Uber does this to assess the performance of their drivers, based on what their passengers suggest.
Privacy	According to a recent study, Google is within a few years of having sufficient information to be able to track the exact movements and intentions of every individual, via Google Earth and other software they are developing. Greater advancements in technology could further risk our privacy.
Cookies	File, often unique identifiers, that are sent by web servers to web browsers and which may then be sent back to the server each time the browser request a page from the server. Can be used to recognise computers when they revisit a website, track users navigating the site, etc.